

WHAT IS CLAIMED IS:

1. A cell search method for use in a mobile radio terminal (10) adaptable to a predetermined number N of kinds of mobile telephone systems (A, B), where N is an integer not less than 1, the method comprising the steps of setting (Sx2-2) priorities for the mobile telephone systems, immediately carrying out (Sx3, Sx4-2, Sy2, Sy3) cell search for a high-priority mobile telephone system when a transmission-related operation is executed by the mobile radio terminal in case where location registration to a low-priority mobile telephone system has already been made, and carrying out (Sy10), upon detecting a cell of the high-priority mobile telephone system, location registration for the high-priority mobile telephone system to put the mobile radio terminal into a standby state in the high-priority mobile telephone system.

2. A cell search method as claimed in claim 1, wherein the transmission-related operation is a dial input operation or a mail address input operation.

3. A cell search method as claimed in claim 1, wherein said mobile radio terminal is a folded-type mobile telephone and the transmission-related operation is an operation of unfolding the folded-type mobile telephone.

4. A cell search method as claimed in claim 1, wherein, in case where a cell of the high-priority mobile telephone system can not be detected by the cell search for the high-priority mobile telephone system following the transmission-related operation, the cell search for the high-priority mobile telephone system is repeated (Sy5, Sy6, Sy8) in a short search cycle for a predetermined period of time.

5. A cell search method as claimed in claim 1, wherein, in case where a cell of the high-priority mobile telephone system can not be detected by the cell search for the high-priority mobile telephone system following the

transmission-related operation, the cell search for the high-priority mobile telephone system is repeated in a short search cycle a predetermined number of times.

6. A cell search method as claimed in claim 1, wherein, in case where
5 the cell of the high-priority mobile telephone system is detected but location registration thereto is not completed at the time instant of detection of a transmission start operation by a user, transmission is suspended (Sz1, Sz2, Sz3) until the location registration to the high-priority mobile telephone system is completed and the transmission is carried out (SZ4) immediately after
10 completion of the location registration.

7. A cell search method as claimed in claim 1, wherein, in case where a cell of the high-priority mobile telephone system is not detected by the cell search for the high-priority mobile telephone system, transmission is carried out in the low-priority mobile telephone system to which the location registration has
15 been made.

8. A cell search method as claimed in claim 1, wherein priorities of the mobile telephone systems can be determined and the cell search is executed with reference to the priorities determined and the information of one of the mobile telephone systems as a current standby system in which the mobile
20 radio terminal is currently in the standby state.

9. A mobile radio terminal (10) adaptable to a predetermined number N of kinds of mobile telephone systems (A, B), where N is an integer not less than 1, said mobile radio terminal comprising means (200, Sx2-2) for setting priorities for the mobile telephone systems, means (200, Sx3, Sx4-2, Sy2, Sy3)
25 for carrying out cell search for a high-priority mobile telephone system upon detecting that the mobile radio terminal carries out a transmission-related operation in case where location registration to a low-priority mobile telephone system has been made, and means (200, Sy10) for carrying out location

registration to the high-priority mobile telephone system to start a standby state in the high-priority mobile telephone system upon detection of a cell of the high-priority mobile telephone system by the cell search.

10. A mobile radio terminal as claimed in claim 9, wherein the means
5 for carrying out cell search for a high-priority mobile telephone system has a function (Sy5, Sy6, Sy8) of repeating the cell search in a short search cycle for a predetermined period of time.

11. A mobile radio terminal as claimed in claim 9, wherein the means
10 for carrying out cell search for a high-priority mobile telephone system has a function of repeating the cell search in a short search cycle a predetermined number of times.

12. A mobile radio terminal as claimed in claim 9, further comprising means (200, Sz1, Sz2, Sz3, Sz4) for carrying out transmission after detection of a transmission start operation (pressing down of a transmission button) and
15 completion of the location registration to the high-priority system.

13. A mobile radio terminal as claimed in claim 9, wherein the means for carrying out cell search for a high-priority mobile telephone system comprises means for carrying out, in case where a cell of the high-priority mobile telephone system is not detected, transmission in the low-priority mobile
20 telephone system to which the location registration has been made.

14. A program for a computer to control cell search in a mobile radio terminal (10) adaptable to a predetermined number N of kinds of mobile telephone systems (A, B), where N is an integer not less than 1, said program making said computer to execute the operations of:

25 judging (Sx1) whether or not said mobile radio terminal is in a standby state in one of the mobile telephone system as a current standby system;

searching (Sx2-2) priorities of the mobile telephone systems to which said mobile radio terminal is adaptable;

- detecting (Sy2) a transmitting operation of said mobile radio terminal;
requesting (Sy3), in case where said mobile radio terminal is in the
standby state and a high-priority mobile radio system higher in priority than the
current standby system is present, cell search for the high-priority mobile
5 telephone system immediately when the transmitting operation is detected;
requesting (Sy5, Sy6, Sy8) repetition of the cell search for the
high-priority mobile telephone system in a short cycle for a predetermined
period of time or a predetermined number of times in case where a cell of the
high-priority mobile telephone system is not detected in the cell search;
10 requesting (Sy10) completion of the cell search and location registration
to the high-priority mobile telephone system if the cell of the high-priority mobile
telephone system is detected; and
requesting (Sy9) setting of a long cycle for the cell search for the
high-priority mobile telephone system or stop of the cell search for the
15 high-priority mobile telephone system and requesting recovery of the standby
state in the low-priority mobile telephone system if the cell of the high-priority
mobile telephone system is not detected in the cell search. repeatedly carried
out for the predetermined period of time or the predetermined number of times.